

## **APPENDIX A - USACE SCOPE OF WORK**



SECTION 01 11 00.00 23

SUMMARY OF WORK - DESIGN/BUILD  
06/07

PART 1 GENERAL

1.1 DESCRIPTION OF THE WORK TO BE PERFORMED

The Work to be performed in this RFP, is the Design and Build of the Blue River Channel Modifications from approximate stations 86+00 to 123+00 which includes the new upstream channel transition to the existing channel at Station 86+00 to 90+00; a Temporary Drop Structure at station 86+00; existing storm sewer pipe extensions with riprap gutters or tributary modifications at Station 87+77, Station 90+65, Station 93+00, Station 101+70, Station 104+60, Station 107+00, and Station 107+72; an option to include storm drain junction box and pipe outfall structures in lieu of riprap gutters; an option to include the Langley outfall structure further downstream at station 256+40 near Stadium Drive; channel protection through the Blue Parkway Bridge, which is now under construction; mitigation features for environmental enhancement; relocation of a Kansas City Missouri 36-inch Waterline; coordination with the Blue Parkway Bridge Contractors, and coordination with all parties responsible for relocating utilities on account of this Work.

The intent of this contract is to provide for the execution, design, construction, and completion in every detail of the Work described, and to compensate the Contractor for all acceptable Work performed in accordance with the provisions of the Contract. The Contractor shall furnish all labor, materials, equipment, supplies, transportation, supervision, design, methods and procedures necessary to complete the Work in accordance with the terms of the Contract.

1.1.1 Project Design

- A. The Contractor shall design all aspects of the Work in accordance with the criteria referenced herein. The project shall comply with the Blue River Channel Stage III Features Design Memorandum (FDM)" to be furnished by the Government to the Contractor. The materials selected for the channel improvements shall be high quality, durable and easily maintained.
- B. The Drawings issued as part of the Request For Proposal (RFP) provide general information for bidding purposes. The Design-Build contractor shall validate the RFP general designs with the Government, make appropriate changes as necessary, and provide Contractor generated drawings for review and approval. The channel alignment and profile shown on the drawings should be adhered to by the Contractor unless a modification is proposed and approved by the Contracting Officer. Permanent channel modifications must be designed within permanent rights-of-way.
- C. The design of all engineering features of the Work shall be accomplished, reviewed, and approved by the Contractor's Engineers registered to practice in their respective professional field in the State of Missouri. The Contractor shall be responsible for the professional quality, technical accuracy and coordination of all designs, Drawings,

Specifications, and other documents or publications upon which construction is based.

#### 1.1.2 Project Construction

Project construction shall consist of all grading, excavation, installation, hauling, fencing and utility relocation and coordination required for a complete channel improvement project and as described in the contract documents. Construction must be within construction rights-of-way.

#### 1.2 NOT USED

#### 1.3 DESIGNER OF RECORD (DOR)

- A. The Contractor shall identify a Designer of Record for each design discipline. All design disciplines shall be accounted for by listed, registered Designer(s) of Record. Each DOR shall be responsible for ensuring integrity of their design and design integration in all contraction submittals and extensions to design developed by others, such as the constructor, subcontractors or suppliers. Each DOR shall review and approve all construction submittals and extensions to design, in accordance with the procedures described in Section 01 33 00.00 23 SUBMITTAL PROCEDURES DESIGN-BUILD. Each DOR shall be responsible for responses to Requests for Information, applicable to their area of design responsibility.
- B. Each DOR shall stamp, sign, and date all design final drawings and reports under their responsible discipline at each design submittal stage (see Contract Clause - REGISTRATION OF DESIGNERS) and all submittals under their responsible discipline, in accordance with the submittal review procedures. Each DOR shall sign-off on all RFI responses under their discipline.

#### 1.4 DESIGN SUBMITTALS

##### 1.4.1 65% Submittal (for 36-inch Waterline Relocation Only)

The review of this submittal is primarily to insure that the Contract Documents and Design Analysis for the 36-inch waterline relocation are proceeding in a timely manner and that the design criteria are being correctly interpreted. The submittal shall consist of the following:

Design Documentation Report (DDR), developed to 65 percent

65 percent complete Contract Drawings

Draft Specifications

Environmental permits, as required. When environmental permits are not required, the Contractor shall provide a statement with justification to that effect.

##### 1.4.1.1 65% Design Documentation Report (DDR)

The DDR submitted for Preliminary Conformance Design review shall be in its preliminary form. The DDR shall include all backup material as necessary for this stage of design effort. Preliminary design calculations shall be

included for the 36-inch waterline. The DDR shall contain all explanatory material giving the design rationale for any design decisions.

#### 1.4.1.2 65% Contract Drawings

The Contract Drawings submitted for preliminary conformance review shall include drawings to fix and describe the size and character of the project as to civil, geotechnical, hydrology and structural systems, materials and other elements appropriate to the waterline relocation.

#### 1.4.1.3 65% Draft Specifications

The draft Specifications shall outline the general nature, products and execution in outline form for each specification section required to provide the waterline relocation.

#### 1.4.2 Pre-final Design Submittal for the Work

The review of this submittal is to insure that the Contract Documents and Design Analysis are essentially complete and that the design criteria are correctly developed in the general and detailed Contract Documents. The submittal shall consist of the following:

- Design Documentation Report (DDR), for final review

- Contract Drawings for final review

- Specifications for final review

- Environmental permits, that are required, should be shown in an Appendix to the DDR. If certain environmental permits are not required, the Contractor shall provide a statement with justification to that effect.

##### 1.4.2.1 Pre-final Design Documentation Report (DDR)

The DDR submitted for Pre-final Design Analysis shall be in its final form. The DDR shall include all backup material previously submitted and revised as necessary. All design calculations shall be included for all design Work performed for this RFP. The DDR shall contain all explanatory material giving the design rationale for any design decisions, which would not be obvious to an engineer reviewing the Pre-final Drawings and Specifications.

The Contractor shall also include specific information in the DDR as required in other specifications, for example Section 1.4 of 01 11 01.00 23 Geotechnical Requirements.

##### 1.4.2.2 Pre-final Specifications

The Pre-final Specifications shall be developed in full format, essentially complete, and describing in detail the general, product and installation requirements in each specification section required to provide a complete project.

#### 1.4.3 Design Complete (100 percent)

After the Pre-final design Conformance review, The Contractor shall submit the following documents for this submittal:

Design Documentation Report (DDR), in 100 percent complete form

100 percent complete Drawings incorporating Pre-final review comments

100 percent complete Specifications incorporating Pre-final review comments

Annotated Pre-final Conformance comments

#### 1.4.4 Beginning Construction

The Contractor may begin construction on portions of the Work for which the Government has reviewed the final design submission and has determined satisfactory for purposes of beginning construction. The ACO or COR will notify the Contractor when the design is cleared for construction. The Government will not grant any time extension for any design re-submittal required when, in the opinion of the ACO or COR, the initial submission failed to meet the minimum quality requirements as set forth in the Contract.

#### 1.4.5 Revisions to the Reviewed Design

The Designer of Record must approve, and the Government COR must concur with, any Contractor-proposed revisions to the Contractor's Government reviewed and concurred design.

#### 1.4.6 Non-Concurrence

The Government reserves the right to non-concur with any revisions to the design.

#### 1.4.7 Revisions

Any revisions to the design which deviate from the Contract requirements (i.e., the RFP and the accepted proposal), will require a modification, pursuant to the Changes clause, in addition to Government concurrence.

#### 1.4.8 Contractor-Initiated Changes

Unless the Government initiates a change to the Contract requirements, or the Government determines that the Government furnished design criteria are incorrect and must be revised, any Contractor-initiated proposed change to the Contract requirements resulting in additional cost shall strictly be at the Contractor's expense.

### 1.5 QUANTITY OF DESIGN SUBMITTALS

All Drawings for review submittals shall be half-size black lines. For 65% and Pre-Final Design Reviews the contractor shall submit 10 copies to KCMO and 10 copies to US Army Corp of Engineers Kansas City District (COE). At the Design Complete submittal, the Contractor shall submit two complete full-size sets of Drawings, 20 complete half-size sets, and 12 copies of CADD files, in Microstation version 8 format, per section titled "Preparation of Drawings."

## 1.6 MAILING OF DESIGN SUBMITTALS

### 1.6.1 Mailing Service

Mail all design submittals to the Government during design and construction using an overnight mailing service. The Government will furnish the Contractor addresses where each copy shall be mailed to after award of the Contract.

### 1.6.2 Transmittal Letter

Each design submittal shall have a transmittal letter accompanying it indicating the date, design percentage, type of submittal, list of items submitted, transmittal number and point of contact with telephone number.

## 1.7 COORDINATION

Prepare a written record of each design site visit, meeting, or conference, either telephonic or personal, and furnish within five working days copies to the Contracting Officer and all parties involved. The written record shall include subject, names of participants, outline of discussion, and recommendation or conclusions. Number each written record for the particular Project under design in consecutive order.

## 1.8 GOVERNMENT REVIEW COMMENTS

### 1.8.1 Design Schedule

Within 7 days after Notice of Proceed, the Contractor shall submit, for approval, a complete design schedule with all submittals and review times indicated in calendar dates. The Contractor shall update this schedule monthly.

### 1.8.2 Government Review

- A. After receipt, the Government COR will be allowed 30 days to review and comment on any design submittal, except as noted below. For each design submittal, the US Army Corp of Engineers (COE) will furnish the Contractor comments from the various design sections and from other concerned agencies involved in the review process. The review will be for conformance with the technical requirements of the solicitation and the Contractors RFP proposal.
- B. If the Contractor disagrees technically with any comment or comments and does not intend to comply with the comment, he must clearly outline, with ample justification, the reasons for noncompliance within 5 days after receipt of these comments in order that the comment can be resolved. All comments must be mutually resolved by the Government and the Contractor. The Contractor shall furnish resolution of all comments in writing with the next scheduled submittal.
- C. The Contractor is cautioned that if he believes the action required by any comment exceeds the requirements of this Contract, that he should take no action and notify the COR in writing immediately. Review conferences will be held for each design submittal at a location to be determined. The Contractor shall bring the personnel that developed the design submittal to the review conference.

## 1.9 DESIGN DOCUMENTATION REPORT (DDR)

### 1.9.1 Media and Format

Present the Design Documentation Report (DDR) on 8-1/2 inch by 11-inch paper, except that larger sheets may be used when required for graphs or other special calculation forms, but must be folded to 8-1/2 x 11 size. All sheets shall be in reproducible form. The material may be typewritten, hand lettered, handwritten, or a combination thereof, provided it is legible. Side margins shall be 1-inch minimum to permit side binding and head to head printing. Bottom margins shall be 1-1/4 inches, with page numbers centered 1 inch from the bottom.

### 1.9.2 Organization

Assign the several parts and sheets of the DDR a sequential binding number and bind them under a cover indicating the name of the facility and Project number. The title page shall carry the designation of the submittal being made. The complete DDR presented for review with the final Drawings and Specifications shall carry the designation "DESIGN DOCUMENTATION REPORT COMPLETE" on the title page.

### 1.9.3 Design Calculations

Design calculations are a part of the DDR. When they are voluminous, bind them separately from the narrative part of the DDR. Present the design calculations in a clean and legible form incorporating a title page and index for each volume. Furnish a table of contents, which shall be an index of the indices, when there is more than one volume. Identify the source of loading conditions, supplementary sketches, graphs, formulae, and references. Explain all assumptions and conclusions. Calculation sheets shall carry the names or initials of the computer and the checker and the dates of calculations and checking. As part of the Contractor's quality control system, no portion of the calculations shall be computed and checked by the same person.

### 1.9.4 Automatic Data Processing Systems (ADPS)

When ADPS are used to perform design calculations, the Design Analysis shall include descriptions of the computer programs used and copies of the ADPS input data and output summaries. When the computer output is large, it may be divided into volumes at logical division points. Precede each set of computer printouts by an index and by a description of the computation performed. If several sets of computations are submitted, they shall include a general table of contents, in addition to the individual indices.

Preparation of the description, which must accompany each set of ADPS printouts, shall include the following:

1. Explain the design method, including assumptions, theories, and formulae.
2. Include applicable diagrams, adequately identified.
3. State exactly the computation performed by the computer.
4. Provide all necessary explanations of the computer printout format, symbols, and abbreviations.
5. Use adequate and consistent notation.



6. Provide sufficient information to permit manual checks of the results.

## 1.10 DRAWINGS

### 1.10.1 Preparation of Drawings (Note - applies to final record drawings only)

- A. Prepare all Drawings on Computer-Aided Design and Drafting (CADD) so that they are well-arranged and placed for ready reference and so that they present complete information. The Contractor shall prepare the Drawings to a level of completeness that allows the COE, as contract administrator, to have the project constructed without any additional assistance from the Contractor. Drawings shall be complete. Unnecessary work such as duplicate views, notes and lettering, and repetition of details shall not be permitted. Do not show standard details of standard products or items which are adequately covered by Specifications on the Drawings. Detail the Drawings such that conformance with the RFP and Shop Drawings can be checked. Do not use Shop Drawings as Design Drawings.
- B. The Design Documents shall consist of Drawings on a 24" x 36" format. The Contractor shall use standard COE title blocks and borders on all Drawings. Submit an index of Drawings with each submittal. The COE will furnish the Contractor file, Drawings and Specification numbers and CADD file names for inclusion in the title blocks of the Drawings.

### 1.10.2 Formatting

- A. Create and save all Drawings using CADD methods in Bentley MicroStation Version 8 (DGN) format. The Contractor shall use ERDC/ITL TR-01-6, "A/E/C CADD Standards Release 2.0", September 2001 from the CADD/GIS Technology Center, or most recent as guidance for standard details, cell libraries, title blocks, and layer/level assignments. Drawing features not addressed in ERDC/ITL TR-01-6 shall conform to drafting standards.
- B. When a Project is started, the designer must contact the Kansas City District Project Manager, telephone (816) 389-3111, to obtain the project's CADD code. The sheet reference number (e.g., A-3) and the CADD code (e.g., E123) are combined to create the CADD file name (e.g., A3E123). The Contractor shall insure proper naming of files and tracking of the Project.

### 1.10.3 Fonts

Only standard fonts provided by Microstation are allowed to be used in the creation of CADD files. No fonts created by third parties or the designer are permitted.

### 1.10.4 Reference Files

The use of reference files during the design stage is up to the discretion of the designers. All CADD files at Design Complete submittal may have reference files attached; however, a detailed description of the CADD file structure listing every file name, reference file attached and level structure for each file must be included with the Design Complete submittal.

#### 1.10.5 Design Complete CADD Files

Submit all Design Complete CADD files on compact disks (CD-ROM).

#### 1.10.6 Drawings

- A. Scale. The Contractor shall use a readable scale at half-size for all drawings within each submittal set.
- B. Content. The Contractor incorporate all design drawings necessary for construction including but not limited to a title sheet, index sheet, general notes, channel plan and profile sheets, channel detail sheets, horizontal and vertical data, survey control and benchmarks, utility plan and profile sheets, and boring data.

### 1.11 SPECIFICATIONS

#### 1.11.1 Specification Submittal

The Contractor shall submit final Specifications as required for the Work in accordance with ER 1110-1-8155, Engineer and Design Specifications. The Specifications shall be provided in UFGS guide specification sections utilizing SpecsIntact. If the design is based on a specific product, the Specification shall consist of the important features of the product. SpecsIntact software and UFGS guide specifications may be obtained at the following website:

<http://specsintact.ksc.nasa.gov/>

The Contractor shall submit final specifications to the Government. Confirm the submittal review contents and format with the Government prior to the Design Complete Submittal.

#### 1.11.2 Submittal Register

The Contractor shall develop the submittal requirements during the design phase of the Contract, by producing a Contractor Submittal Register. The Contractor shall attach a submittal register to each Section of the Specifications for the submittal requirements of that Section and prepare the Submittal Register on ENG Form 4288. The Contractor shall be responsible for listing all required submittals necessary to insure the Project requirements are complied with. The Register shall identify submittal items such as Shop Drawings, manufacturer's literature, certificates of compliance, material samples, guarantees, test results, etc., that the Contractor shall submit for review and/or approval action during the life of the Construction Contract. The Contractor shall place all the Submittal Register pages in an appendix of the Design Complete Specifications.

### 1.12 SURVEYING AND MAPPING

The Contractor shall provide survey necessary for the preparation of a complete design and construction of the Work. Any questions regarding survey requirements and procedures may be found in the Manual of Instruction for Geodesy, Cartography, Hydrography and Photogrammetry (Survey Manual) dated January 1988. The survey Control points and Bench marks to be used by the Contractor, are shown on drawing no. C1.2. All surveys shall be in the

Missouri State Plane Coordinate System Mercator Projection NAD-27 Missouri West Zone. Elevations are to be based on NGVD1929.

### 1.13 SHOP PLAN AND WORKING DRAWING SUBMISSION AND REVIEW PROCESS

Shop plans or working drawings shall be submitted to the Contractor's designer for review and approval. All shop drawings shall be routed to the Government for information. All design calculations and shop plans (design drawings) shall bear the legible seal, date, and signature of the responsible engineer registered as a Professional Engineer in the Missouri. The Contractor is solely responsible for the adequacy of the drawings, accuracy, completeness, and constructability of the submitted design before and after review.

## PART 2 CONTROL OF WORK

### 2.1 PLANS AND WORKING DRAWINGS

The CONTRACTOR shall have one copy of the Proposal and Contract documents and one Full-Scale copy of the plans available at all times during Work activity on the project. Plans will generally show details of the Work to be performed and a summary of the items appearing in the proposal. The plans will be supplemented by working drawings as necessary to adequately control the work. Full size As-built drawings shall be furnished by the CONTRACTOR as required for the completion of the work.

### 2.2 COOPERATION BETWEEN CONTRACTORS

The Government and the City of Kansas City Missouri reserves the right to award contracts for work on or near work covered by other contracts. Each CONTRACTOR will be expected to cooperate with the other CONTRACTOR(s) and the Government's representatives in every reasonable manner for work at the Blue Parkway Bridge over the Blue River City Project No. 309-089-7528-YXX-5465.

When separate contracts are let for work, any part or all of which is within the same limits, each CONTRACTOR's work shall be conducted so as to cause the least interference with work being performed by the other CONTRACTOR(s).

### 2.3 CONSTRUCTION STAKES, LINES AND GRADES

Except as noted elsewhere in the Contract, the CONTRACTOR will set construction stakes establishing lines, slopes, and profile grades in Channel Work and establish all centerline and benchmarks for the Channel which will extend through the limits of the Blue Parkway Bridge Improvements. Any corrective Work caused by inaccurate field controls established by the CONTRACTOR will be performed in a manner satisfactory to the Government and at no additional cost to the Government.

### 2.4 SLOPES AND SURCHARGES

Existing slopes are unstable in many areas. Slopes should not be surcharged with stockpiled material, equipment, or other heavy loads near or on the slopes. Any surcharging of slopes shall be carefully monitored. The adjacent ground surface shall be observed for the purpose of early detection of any longitudinal cracks approximately paralleling the excavation. In the event

cracks or landslides occur, all work shall be stopped in the immediate area until any necessary repairs are completed.

## 2.5 NOT USED

## 2.6 NOT USED

## 2.7 LOADS

Highway vehicles used to haul materials on the construction site, in general, shall not exceed the state and city gross weight limitations. The gross weight of vehicles not having waybills shall be determined by the Contracting Officer's representative using a certified waybill showing the empty weight of the vehicle and calculating the weight of the material being hauled.

All vehicles delivering material to the construction site shall have a waybill, delivery ticket or bill of lading showing the gross weight of the vehicle and signed by a public or bonded weigh-master. The weighing shall be done on public or other scales which have been certified by the state. Highway vehicles delivering material shall not exceed the state and city gross weight limitations.

## PART 3 CONSTRUCTION CONSIDERATIONS

### 3.1 Contractor Furnished Sources

The CONTRACTOR shall provide sources of materials meeting the requirements of the Contract and shall bear all costs involved in the inspection, sampling and testing for quality control of all materials.

### 3.2 SANITARY, HEALTH AND SAFETY PROVISIONS

The CONTRACTOR shall provide and maintain adequate sanitation facilities for employee use. The CONTRACTOR shall also provide adequate dust control on the project, haul roads and at other areas of operation. Such accommodations shall be designed and operated to conform to local and State health regulations. The CONTRACTOR shall not require any worker to work in surroundings or under conditions contrary to local, State, and Federal health and safety regulations. All such requirements and regulations shall be as binding upon the CONTRACTOR as actually included in these specifications.

### 3.3 ON SITE PERMITS

The Contractor is responsible for securing and paying for all permits for the project including all City, Environmental, Excavation, and Haul Roads Permits

| <u>ACTIVITY</u> | <u>SUBMISSION DATE</u>              | <u>SUBMISSION FORM</u> |
|-----------------|-------------------------------------|------------------------|
| Environmental   | [_____] calendar days prior to work | [_____]                |

& Erosion Control Permit

Haul Roads Permit                    [\_\_\_\_\_] calendar days prior to work [\_\_\_\_\_]

Excavation Permit                    [\_\_\_\_\_] calendar days prior to work [\_\_\_\_\_]

Permits shall be posted at a conspicuous location in the construction area.

Burning of trash or rubbish is not permitted on the project site.

### 3.4      Utility Relocations

The CONTRACTOR shall coordinate and be responsible for all utility relocations with the respective utility owners. The Contractor shall submit a utility relocation plan with the Pre-Final Design submittal for Governmental approval.

## PART 4      CONSTRUCTION PROCEDURES

### 4.1      FURNISHING RIGHTS-OF-WAY

The Government will be responsible for the securing of all rights-of-way WITHIN THE CONTRACT in advance of construction.

### 4.2      VERIFYING RIGHTS-OF-WAY

The Contractor shall verify all property lines, ownerships and easements to ensure that all permanent channel modifications are designed and built within permanent rights-of-way and that all construction remains within construction rights-of-way. Rights-of-way, ownerships and easements shown in the RFP drawings are representative only.

-- End of Section --